

**Parcel C Remedial Action (RU-C1, -C4, and -C5)  
Project Update  
Hunters Point Naval Shipyard  
San Francisco, California**

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Contracted Support to NAVFAC BRAC PMO

BCT Meeting March 27, 2014

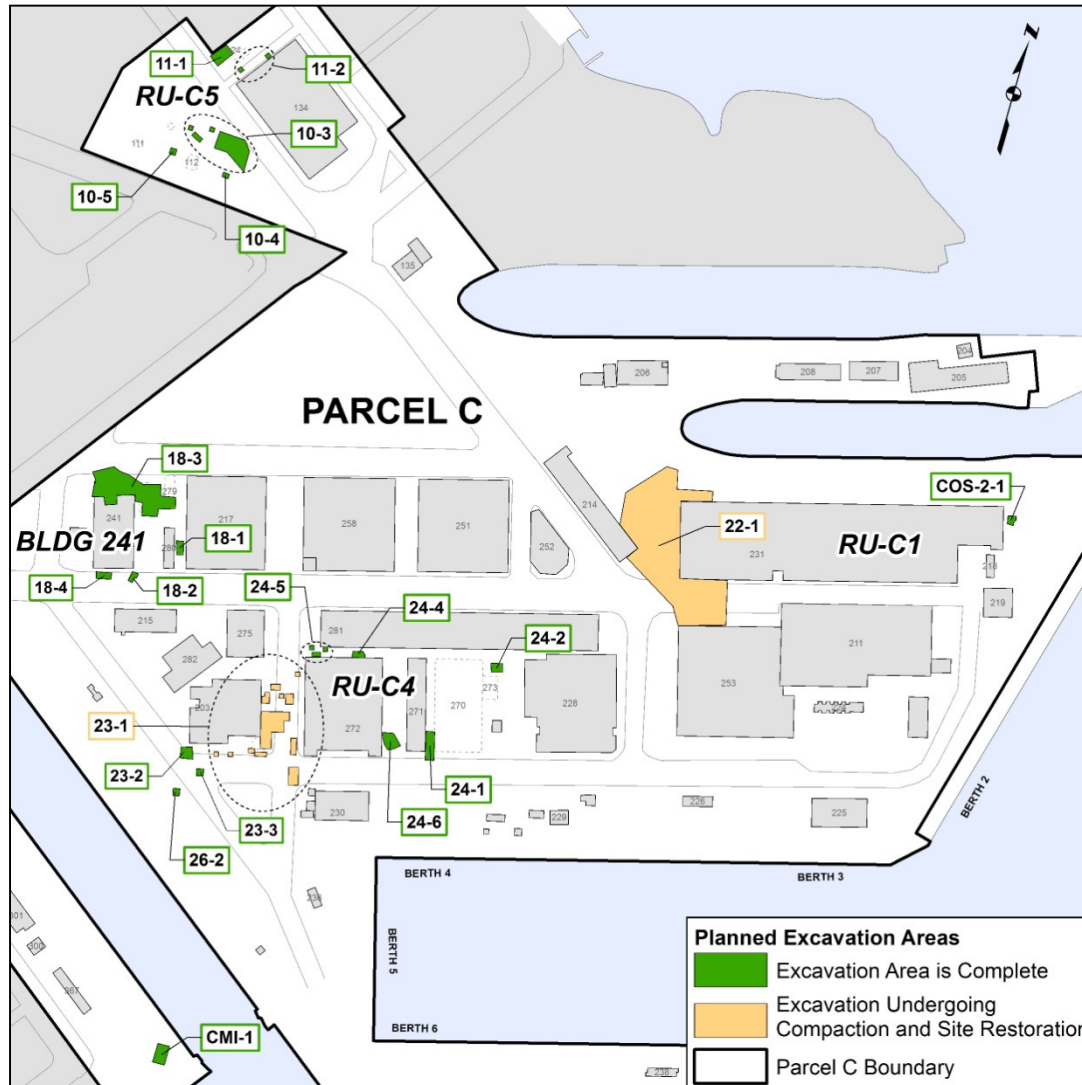
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## Outline Parcel C Remedial Action



- **Brief Excavation Summary**
- **Groundwater Remedy Status**
- **SVE Systems Progress**
- **What's Next**
- **Schedule**

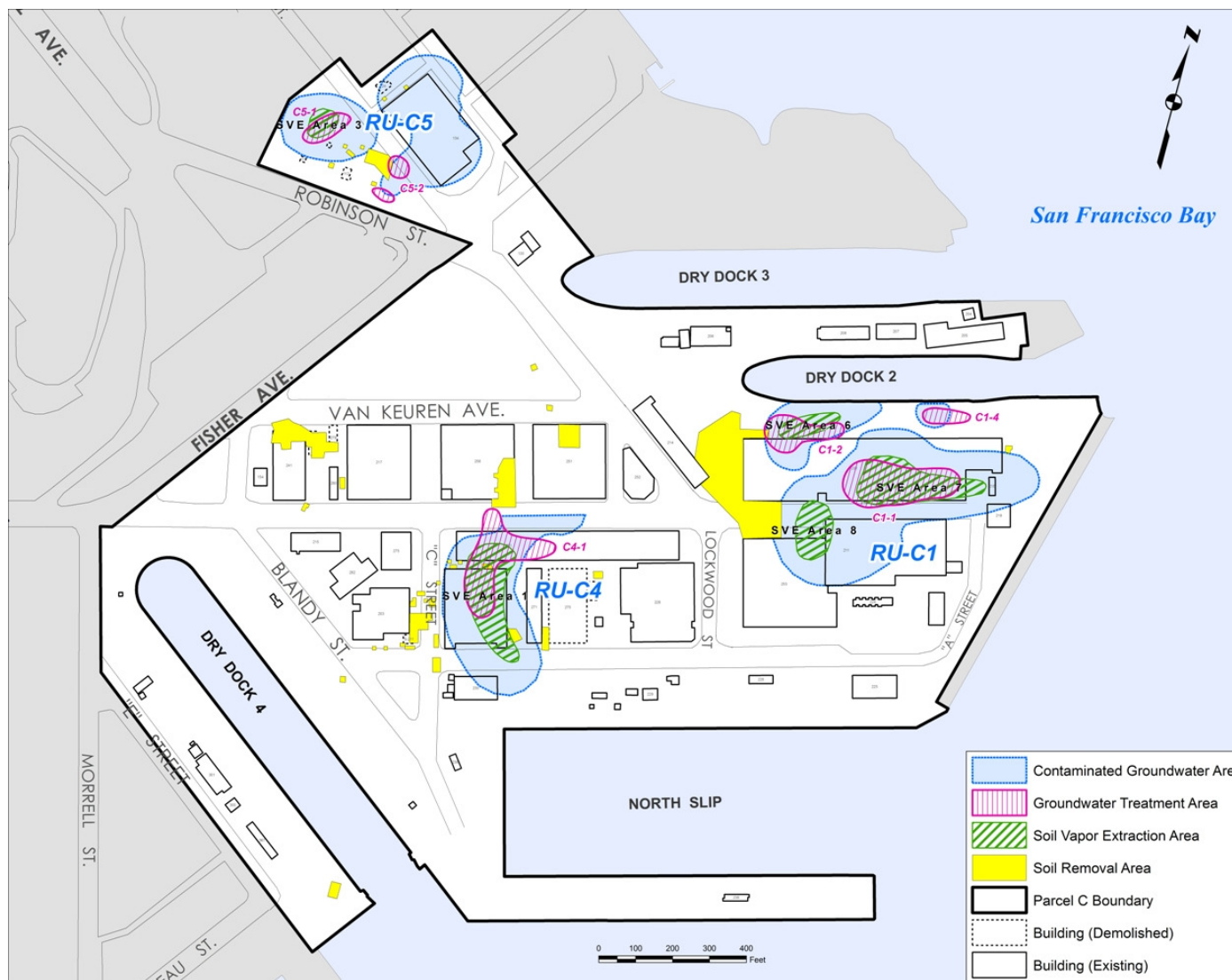
# Parcel C Excavation Summary



- Remedial action excavation was completed in February 2014.
- Compaction and site restoration is complete for all excavations with the exception of 22-1 and 23-1 (projected complete by early April 2014).
- Status of excavations with revised action levels:

- 11-2: Excavation and sampling completed 10/10/2013. Backfilled upon BCT concurrence.
- 24-5: Excavation and sampling completed 11/26/2013. Backfilled to gain access to surrounding excavations and SVE system.
- 23-1: Excavation and sampling completed 2/14/2013. Backfilled to gain access to surrounding excavations.

# Parcel C Injection Locations and SVE System Locations



### **Plume C4-1 Injections Completed as of March 20, 2014**

- 14 Shallow (10-25 ft bgs) Lactate and SDC-9 Injections
- 6 Deep (10-49 ft bgs) Lactate and SDC-9 Injections
- 5 Shallow (10-25 ft bgs) ZVI Injections
- 6 Deep (10-49 ft bgs) ZVI Injections

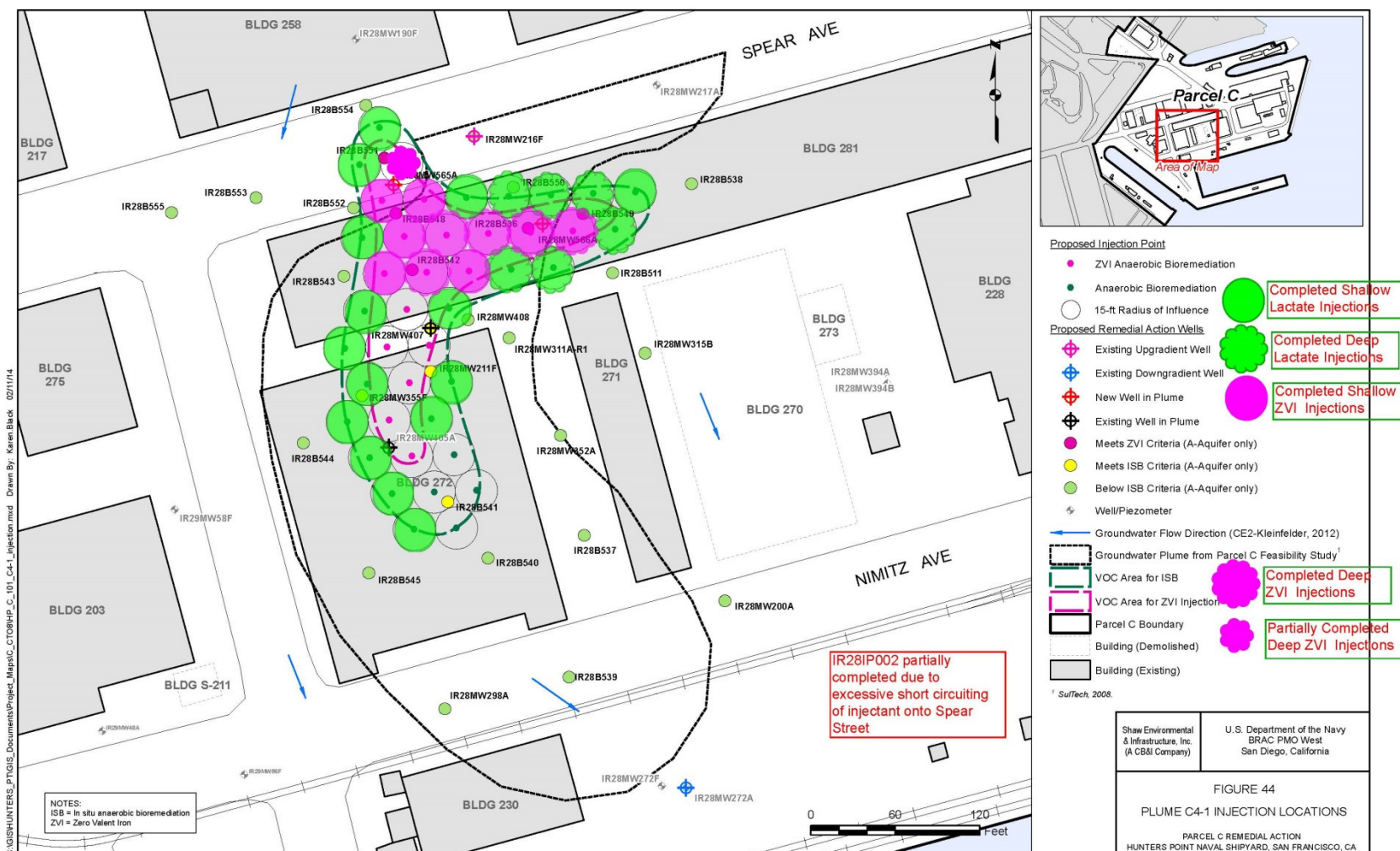
### **What is Left:**

- Plume C4-1: 4 Lactate/SDC-9 Injections (shallow)
- Plume C4-1: 6 ZVI Injections (shallow)
- Plume C1-1: 40 ISB and ZVI (shallow)
- Plume C1-2: 21 ISB and ZVI (shallow)
- Plume C1-4: 8 ISB for Cr6+ (shallow)
- Plume C5-1: 8 ISB (shallow)
- Plume C5-2: 6 ISB for Cr6+ (deep)

**SDC-9: Unique bacteria strain developed and produced by Shaw™ (now CB&I)**



# Plume C4-1 Injection Progress



## Plume C4-1 Injection Progress



Injection within Building 281 addressing Plume C4-1

## SVE System Summary



### **Completed:**

- SVE system installations completed for SVE areas 1, 3, 6 and 7.
- SVE Area 8 (RU-C1, Buildings 211/253) installation is partially complete pending resolution of what the Navy believes is a damaged solvent line at Building 253 – further investigation to determine how to best address the solvent line planned for April 2014.
- SVE system startup/shakedown testing was completed at RU-C5 (SVE Area 3) on March 4, 2014.

### **What is Left:**

- Complete system installation and startup/shakedown testing at SVE Area 8.
- SVE system operation – projected to start in June and be completed in September.



## SVE System Summary



Startup/Shakedown Testing of SVE Area 3 in RU-C5 (Completed March 4, 2014)



# SVE System Summary



## System Construction at SVE Area 8 in RU-C1 (Inside Building 253/211)





## What's Next



- Complete site restoration, compaction testing, and final excavation area inspections by Navy (~90 percent complete).
- Complete the SVE system construction and startup/shakedown testing at SVE Area 8.
- Finish injection at RU-C4, move to Plume RU-C1 and begin injection and then on to RU-C5.
- Complete the final survey of all excavation and injection areas for preparation of as-builts.

## Schedule



Activity	Date
SVE System Assembly and Installation	October 2013 – April 2014
SVE System Operation (Preliminary)	June 2014 – September 2014
Remedial Injection Bio & ZVI	January 2014 – May 2014
Post-injection Groundwater Sampling	March 2014 – March 2015*
Compaction and Site Restoration	January 2014 – March 2014

\* Post-Injection Groundwater Monitoring Schedule

- Three sampling events at 2 week intervals (weeks 0, 2 & 4), then
- Three sampling events at 1 month intervals (weeks 8, 12 & 16), then
- Three sampling events at quarterly intervals (weeks 28, 40 & 52)